



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,806	03/16/2004	Zhigang Hao	20077/US04033P	1894
34431	7590	10/17/2005	EXAMINER	
HANLEY, FLIGHT & ZIMMERMAN, LLC			FRANCIS, FAYE	
20 N. WACKER DRIVE			ART UNIT	
SUITE 4220			PAPER NUMBER	
CHICAGO, IL 60606			3725	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/801,806

Applicant(s)

HAO, ZHIGANG

Examiner

Faye Francis

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/16/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means", "said," and "**disclosed**" should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the use of legal phraseology [note the word "**disclosed**" in line 1. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 3725

4. Claims 1 and 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention without undue experimentation. It is not clear from the specification how the support system configured to restrict the cylinder in the circumferential direction as recited in claim 1 and how the tilt angle of the guide is adjusted as recited in claim 5.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitations "the roller" and "the axial" in line 5. There is insufficient antecedent basis for these limitations in the claim.

With respect to claim 1: it is not clear how the support system configured to restrict the cylinder in the circumferential direction.

With respect to claim 4: the claim language is confusing since it is not clear whether "scrapers" in line 2 is the same scrapers as in line 9 of claim 1 from which claim 4 depends or is an additional one. Note also the phrase "pressure applying mechanism" in claim 6 in similar regard.

Claim 5 recites the limitation "the scraper" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over chevalier et al. [6,138,933], hereinafter chevalier in view of Durinck et al. [5,205,494], hereinafter Durinck].

Chevalier discloses in Figs 1-11, a horizontal roller mill comprising a cylinder [drum 10] and a conical roller 16, both ends of the cylinder each being provided with an end cover, the end cover of one end being provided with an inlet [supply chute], the end cover of the other end being provided with an outlet port [discharge chute], on the outer wall surface of the cylinder is disposed a driving member for rotating the cylinder, the roller being located within the cylinder, the axial sections at both ends of the roller extending out of the end covers of the cylinder [col 2 lines 27-33], on the two extended axial sections being provided with a mechanism [hydro-pneumatic jacks] for adjusting the material grinding pressure and for adjusting the gap between the surface of the roller and the inner wall surface of the cylinder, scrapers [strips 18] configured to scrape material layers and a support system [Fig 1].

Chevalier does not disclose a plurality of rollers and an adjustable guide arranged under the scraper.

Art Unit: 3725

Durinck teaches, in the relevant art, the concept of providing a grinding mill with plurality of rollers and adjustable guides arranged under scraper [col 5 lines 1-35]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the device of Chevalier with the plurality of rollers as taught by Durinck for fine grinding of the material. Additionally, it would have been obvious to further incorporate adjustable guides under the scrapers in the device of Chevalier in order to intercept the flow of the material.

9. Claims 1-2, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over chevalier in view of Catani [5,743,475].

Chevalier discloses most of the elements of these claims as stated above.

Chevalier does not disclose a plurality of rollers and hinged seat.

Catani teaches the concept of providing a grinding mill with plurality of rollers [25 and 34] and a hinged seat [base 30 and hinge 29]. It would have been obvious to provide the device of Chevalier with the plurality of rollers as taught by Catani for fine grinding of the material. Additionally, it would have been obvious to further incorporate a hinged seat in the device of Chevalier in order to adjust the position of the device on a supporting surface.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over chevalier in view of Durinck as applied to claims 1-2 and 4-5 above and further in view of Ostermann [1,718,184].

Modified device of chevalier has most of the elements of this claim but for a conical cylinder.

Ostermann is cited to show desirability to have a grinding mill with conical shape cylinder/chamber. It would have been obvious to modify the cylinder in the modified device of chevalier to have a conical shape as taught by Ostermann in order to aid the introduction and discharge of material into and from the mill.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over chevalier in view of Catani as applied to claims 1-2, 4 and 6 above and further in view of Ostermann.

Modified device of chevalier has most of the elements of this claim but for a conical cylinder.

Ostermann is cited to show desirability to have a grinding mill with conical shape cylinder/chamber. It would have been obvious to modify the cylinder in the modified device of chevalier to have a conical shape as taught by Ostermann in order to aid the introduction and discharge of material into and from the mill.

12. Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted Prior Art in page 1 of the specification, hereinafter Prior Art in view of either Durinck or Catani.

Prior Art discloses most of the elements of these claims but for the plurality of rollers. It would have been obvious to provide the device of Prior Art with the plurality of rollers as taught by either Durinck or Catani for fine grinding of the material. Additionally, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8 (7<sup>th</sup> Cir. 1977).

Art Unit: 3725

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art in view of either Durinck or Catani as applied to claims 1-2 and 4 above and further in view of Ostermann.

Modified device of Prior Art has most of the elements of this claim but for a conical cylinder.

Ostermann is cited to show desirability to have a grinding mill with conical shape cylinder/chamber. It would have been obvious to modify the cylinder in the modified device of Prior Art to have a conical shape as taught by Ostermann in order to aid the introduction and discharge of material into and from the mill.

#### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Francis whose telephone number is 571-272-4423. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FF



Faye Francis